Pocket Notebook
PN 21-08-10 (1921-1922)

This notebook dates from August 1921 - October 1922. The pocket notebook contains notes by Thomas A. Edison relating to experiments on phonograph records, Ford starter batteries, chalk telephones, amberol records and chemicals. There are notes about advertising expenses and phonograph prices. This notebook was originally found at Glenmont.

PN-21-08-10

☆3346

EDIS110239

1 Wanted Church Choir songs
2 Singing lesson School music
3 Foreign language catalogue
4 Books 12" 450 thread's speed
5 Amberola circulating records
Cafeteria, ~~Mac~~ Selling Scheme
6 Cheapen Amberola record
7 Gibbs perfect, best, loud machine

6.79 Quarts Rosin Varnish per
100 blanks, 3.87 per record
Alcohol Nine Mills per record
Aug 10-1921

Formula for dissolving
recording wax off of plated
masters
12 cc Gasolene
3 cc glacial acetic acid
80 gasolene 20 acetic
100 Mlg wax dissolve in 15 cc
of Solution 45cc Gallon

A brush revolving is used with the Solution to clean master This is now in reg use High speed is used to throw off the wax laden solution -

Take a record of the Roar of the Ocean in storm at Long Branch -

Cost of a Blank as represented by an OK record, discards & all is 5.23. probably now July 1st 5 cents Labor costs July 1 on blank only 3 cents.

~~Aug 20 Polishing records~~

~~To Cut fine points in groove uses Chalk in Kerosene Keep in suspension by whirling paddles. Then China Clay in Suspension by paddles to remove Kerosene & Chalk & polish - both using Revolving brushes - 3 cycles a cycle being over and back -~~

~~We clean all records by revolving them & cotton cloths We use Alcohol Containing C P Stearine A film is left on records so diamond dont cut record runs 700 to 1000 times -~~

WE are getting 180 blanks
per gal of Varnish
Aug 30/21   4 min Viscosity

Pull on Earth to keep in orbit
3.200 000 000 000 000 000 Tons

Weight of pair of Labels on record printed 1½ grams
Costs 4 times as much as old way with labels
$20000 new $4000 old way

Sept 18/21 Maxwell says we have in US 4.404 Dealers of which 2,384 Edison Exclusive

Ford Runabout self starter, rims
Extra wheel & Tires $4.77
Delivered Orange

~~Varnish Dept 47 girls. piece work make 135000 blanks a week Var girls work approx 7½ to 8 hours day or total 30 @ $32 + ? find out~~

~~1 girl turns out about 200 1 Coat blanks per hour or 100 2 Coat per hour   7 men do the handling. Kurtz Estimates Cost 4/10 ths of a Cent per OK blank~~

~~Old dark flake Brightened by boiling ½ hour in 10% Solution of Sodium Bisulphate wash free of this salt. wash in 1% Caustic Soda Solution - Dry in Air~~ 1/22

~~Nickel Spots can generally be removed by immersing Master in dish on hot plate in 20% Sulphuric + watch till Ni disappears~~

Sept 28th 21 Standard Negrosine 3/16 of 1% in Varnish

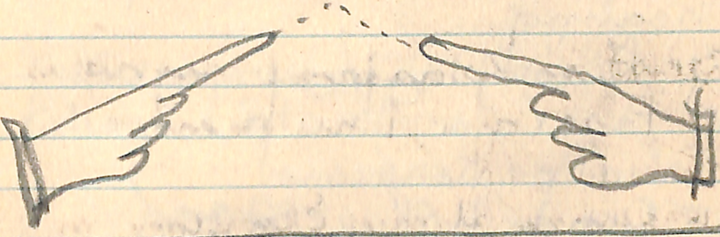
Congestion at our Elevators in #24 when working full is expensive, Have it studied

Country Club gets Dancing Records thru Dykeman Club says every one is stolen by End of the week

Record presses used 95 lbs steam per cycle of 12 prints Blank presses 119 lbs per cycle of 14 blanks 8½ lbs steam per print
What date is this

Slow down a record of Helen Ware see if I can hear the inaudible high notes

Start Formula Book.



Have search made on Ford starter battery

Regeneration, Fe plates soaked in water [no heat] containing 1/10th of 1% of Caustic Soda for 4 days after drying grids taken out + cleaned at Contacts, Cleaned by revolving brushes - partially acid - Parts hand dipped, cleaned + dried

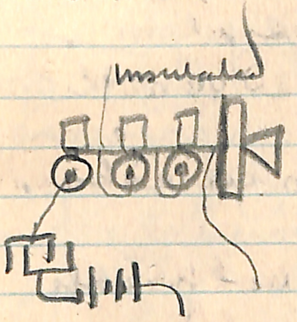
Regeneration Dec 29/22

~~1st Soak Cans one hour in~~
~~Toluol Kerosene or perhaps~~
~~Then fuel oil & then Kerosene~~
~~use fuel oil that is used for~~
~~heating~~
~~2nd Drain cans free from solution~~
~~3rd Pass Cans thru fresh~~
~~Toluol or Kerosene~~
~~4th Dip in HCl 25 @ 30%~~
~~for 10 minutes~~
~~5th Scrub with acidulated water~~
~~6 Rinse in water~~
~~7 Dip in boiling hot alkali~~
~~1/10th of 1% $NaOH$~~
~~8 Dry in air~~

~~To clean grid poles, washers~~
~~Etc~~
~~1st Boil in 10% $NaOH$ 1 hour~~
~~2 Dip in HCl 20 @ 25% for~~
~~10 minutes~~
~~3 Scrub with $\frac{1}{10}$ of 1% acid~~

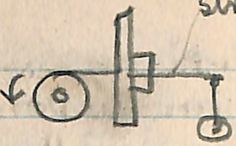
~~4 - Rinse with water~~
~~5 Dip in boiling hot water~~
~~having 1/10th of 1% $NaOH$~~
~~6 Dry in air~~

Victor records 090 thick
Edison 215 about



3 stage chalk phone either
multiple arc but best series

A new radio system use a
system of Vibrations 12000
per sec which is inaudible in
Bell Receivers but is on chalk
phone to good ear

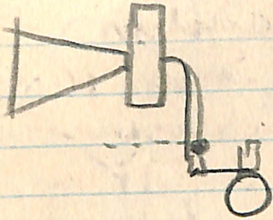

streaching Cord
to counterbalance
friction pull-

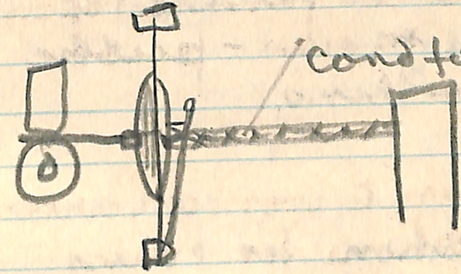
Metallic Mercury reduces ferric Salts- may help in regeneration

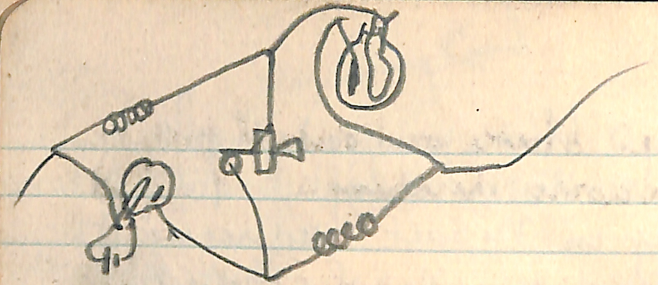
Local telephone system
a Sound audio Siren 10000 to 12000 sec, high pressure air 300lbs modified by Voice, Tuned funnel receiver One mile radius - public hear nothing

Use a Hyam to work a Carbon or other phone for radio

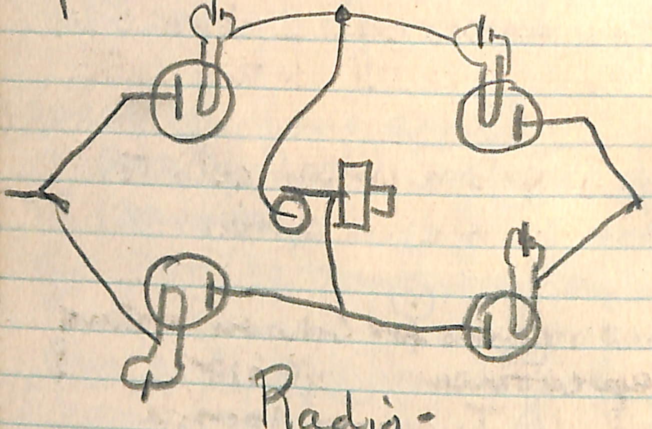
MgO blocks pressed & then backed to sinter and left highly porous dip in Ni Salt & reduce in H then dip in Ni Sol & precip by NaOH. for high rate Storage battery Cheap-


Chalkphone
Leverage


cord for sprin



Water or grafite Res- both sides of the wave



Radio-

12000 over 100 gal dealer

Dec 14 21 got loss of Alcohol Lacon to 29 grams per record

20 Million Tons at Velocity 100 million Miles sec will keep Earth in its orbit this 20 million Tons is one, 240 000 000 000 000 of weight of the Earth

Gibbs to take out detail patents on Loud Machine.

Try get device so records lifted off phono easy

~~get device so can put on~~ Got ~~record + start in the dark~~

Auto stop when gets to end of the record.

Test record for Edison testing Reproducer 80678
Prelude Tristan + Isolde
End of 1st Strain a very short high note mmmm isolated

Masters should never be polished to touch Chatter marks Chatter marks are ground away on Female never on Master

Jany 24/1922

~~Jany 24 Print press after a weeks campaign by Edison & Moore~~

~~Contact 4 1/2 min~~ ~~where is 25 sec steam~~
~~2 low pressure 135 lbs.~~
~~8 High press 1000 lbs~~
~~5 1/2 Cool.~~

Get just as good results with 2 Contact 2 low 8 High 5 1/2 Cool

There is a later & final schedule get it - averages 80 ok to Stock & 95 as far as pressing

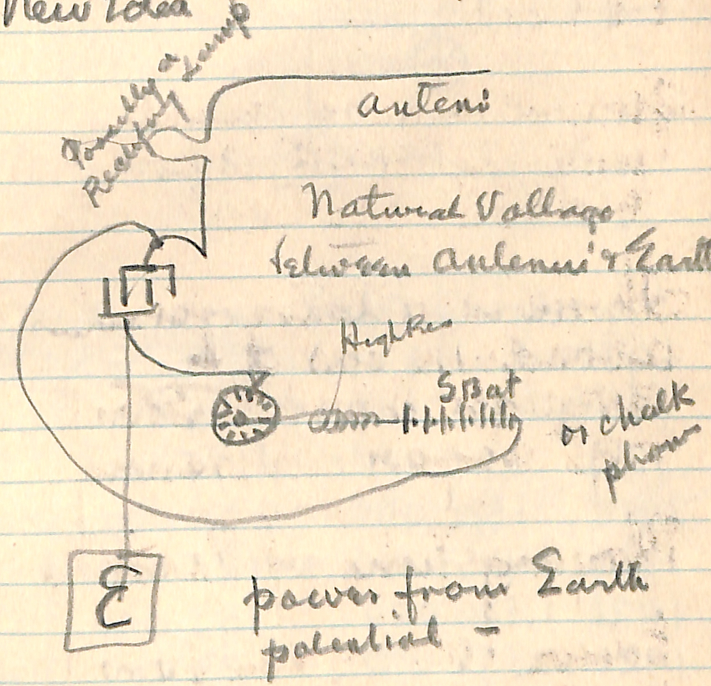
Playing Time of Records

~~Edison 10"~~	~~4 min~~	~~39 sec~~
~~Victor 12"~~	~~4 "~~	~~10 "~~
~~Victor 10~~	~~2 "~~	~~52 "~~

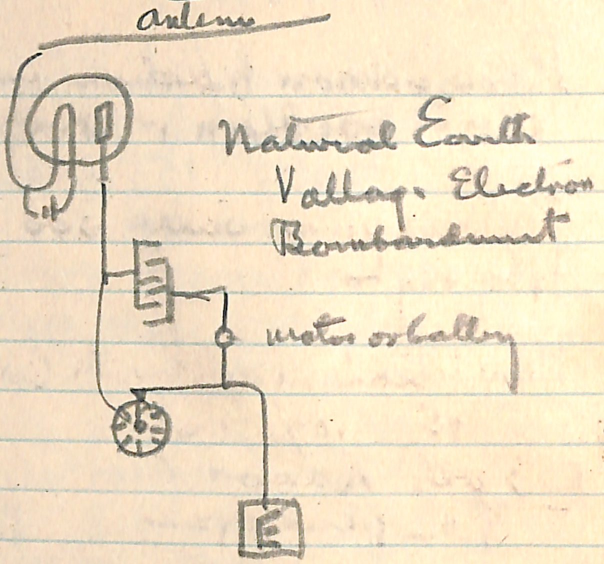
~~Rosin - fairly pliable at 125° Fahr Begins to soften at 105 Melts 155 @ 160~~

Feby 1922

New Idea


Powerful Receiving or Lamp
anteni
Natural Voltage between antenna & Earth
High Res
5 Bat
or chalk phone
E

power from Earth potential -



Natural Earth
Voltage. Electron
Bombardment

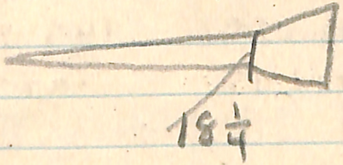
	Advertising Expenses	Machines Sold	
1915	$ 113 000		
1916	225 000	75 000	3.00
1917	281 000	79 000	3.55
1918	160 000	70 000	2.25
1919	475 000	123 000	3.86
1920	1,136 000	142 000	8.00
1921	572 000	33 000	17.60
1922			
1923			

2000 Edison Machines in
NY - Brooklyn & Bronx

Pre war piano Sales 300 000
Yearly — in USA

Material in a Blank Costs
2.45 10% lost,
3.00 Labor
5.45 - June 1922

Taper on 40 ft phono
funnel 1/2 inch to foot
flare 6.3 per foot. length
37 ft 8 1/2 inches
Length flare 4 ft 7 3/4 inches
Dia at Small End 18 1/4"



Dont forget set Min & max
supplies in book Archer
worked up for supplies
for Disc dept,

Iron Mt Chapin Mine
Ford Lumber Camp He
Can furnish hard lumber he
is going to put in Veneer
Machine —

Threaded rubber hose for a
packing material

Make a Recorder on Hyam
principle

Connect EMG chalk thru
Rubber so grind of worm
will not reach Chalk
for Quiet work

Rig up old X ray wheel 1/16 opening
1/16 close, Air blow out 1000 Rev)
use Magnet to help blow out
This will give 10000 sec - by
a duplicate wheel side by
side staggered could get
20000 sec

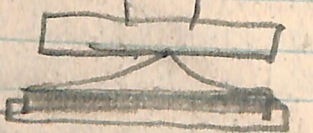
Push old Etheric for publication
& find that statement of Kelvin
after Hertz paper & all publications

One man operate 12 presses

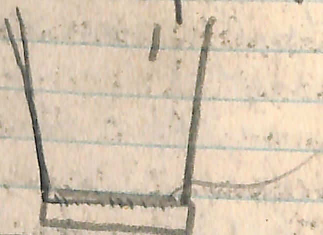
~~Keep at Automatic Varnishing
Machine~~

Automatic handling of
Moulds

The slightest pressure on a lampblack button destroys its sensitiveness we should increase its area as much as possible say One inch or more



possibly Smoked platinum disk + gold leaf laid over + sound wave press directly on left



Canvass of one Section

In Orange	404	Vic
	83	Edison
1309 Houses	48	Sonora
663 own some	25	Columbia
kind of Phono	19	Brunswick
	15	Jofson
	6	Pathe
	50	all other
	1	amberola

For every Ford 2 men 6 Cheppendale are required –

Make as many record doping Machines as we use testers at Jobbers –

Murder Rue Morgue 15000 words
7½ minutes 12" disc 15 minutes total for both sides ½ speed makes it 30 minutes both sides – 450 threads multiplies it by 3 or 90 minutes. 1½ hours, Cut the Novel to 10000 words & it gets on one disc

Chemical Telegh paper
2 grms phenopthalein 20 grms
CP KOH in 100 cc aq
gives pink coloration of one
part Copper 100 Million pts
water -

Another
1½ grms alpha Naphthol
+ Paraphenylenediam
+ NaOH. dissolved in
100 parts redistilled water
its diluted 1 to 100

to 3 cc of sol to be tested
add ½ cc of above + heat
to boil Red or Violet color
0.000000005 % detected

14 Fords

Labor	$ 162
Material	18
Gas	2 24
Cost to Operate	28.94
Rent	750
Insurance	466
	$ 41.10

Sales in Orange Feby 1 to
June 16 1922
16 Chips
20 Sheraton
89 Hepplewhite
6 Chalelets
1 Wm & M
1 Wm & M Console
4 C.450.
Population 106000
all Oranges

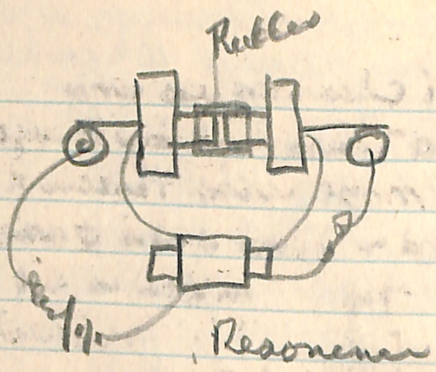
Average family spend
21% for Recreation etc

1 Meter wave length requires
325 million Vibrations a second
10 Meters 32½ Million a sec

5 ft Column floated 1000 mesh
Carderville slate is displaced
by pure water at rate of 2.4
inches in 24 hours giving
1½ gal per sqr foot
tubs 1½ bore
it goes continuously at this
rate without Variation—
this is Raw slate with
Equal time cold & not
treated for Extraction

1st year boxes — Orange system
600 owners approx 4 months

	In box	Sales	% Sales	Sales per Sample
Dance	23	362	31.4	15.75
Piano	3	45	3.9	15
Hawaiian	2	20	1.7	10
Xylo	3	23	1.9	7.66
Comic Talk	5	38	3.2	7.6
Banjo	3	22	1.9	7.3
Ven Trio	7	47	4.1	6.7
Band	23	144	12.6	6.26
Comic Sing	6	37	3.2	6.1
Cornet	4	24	2.1	6
Whistling	1	6	0.5	6
Marimba	2	9	0.77	4.5
Orch	22	86	7.45	3.9
Religious	14	39	3.37	2.8
Heart S	71	187	16.2	2.6
Violin	8	17	1.46	2.12
Opera	30	33	2.87	1.1
Foreign Languages	9	9	0.77	1.1
Cello	4	4	0.34	1.0
	240	1152		



probably 50 to 100 000 second

Italy Tremolite ~~Ca Mg $[SiO_3]_4$~~

~~Canada - Serpentine Asbestos~~

~~$H_2 Mg_3 Si_2 O_9$~~

~~Blue Crocidolite~~

~~$NaFe''(SiO_3)_2$~~

~~$(Fe''SiO_3)_3$~~

June 28 = I cleaned up and passed old Tunes left by Hayes in Vault, most were rejected others Held + Good ones passed

Opera 74
others 168
242 Total passed

in 242 is 49 pop songs
27 orch

Mailed in March

Batson Questionnaire Thru
2 Farm papers in Canada
Q 1 Do you own a phono
Q 2 What make
Q 3 If you were to buy a phono today which of following phonos would you buy

1st Q 2914 have Phonos | 1787
Haven't Phono

A Q1 - 1127 own 175

A Q 2 Edison Amberola	390
Victor	220
Columbia	167
Edison Disc	97

Q2 - Pathe	33
Brunswick	30
Amphion	21
Malotone	18
Stewart	15
Sonora	7
Star	6
Phonola	5
McLagan	5
Mason & Risch	4
Aeolian	2
Miscellaneous	96

As to Question 3

Edison Disc	768
" Amberola	546
Victor	478
Brunswick	255
Columbia	219
Pathe	75
Sonora	56
Melotone	31
Mason & Risch	29
McLagan	28
Sovereign	16
Star	14
Miscellaneous	29

Q4 was what priced phono they would buy

$25	221	$5525.00
50	723	36000
75	294	22000
100	379	37000
125	69	8600
150	147	22000
175	12	2100
200 up	137	27.000

$82 average Price
37½% of Volume is over $100-

61% Have no Phonos

Babson figures shows
11% Edison Disc
89% Needle leaving out
Amberola – if this is in
Edison 40%.

Orange Edison 12.6%

Jany 1 to June 28 1922
Woodfin –
Number of Victor owners who
have bought Edison 14
Columbia 5 Aeolian 1
Mongrel 5
25

of E machines sold
to needle owners
4 Chippendale
9 Sheraton
10 Hepple
2 Adam Console

average price of E sold
207.20

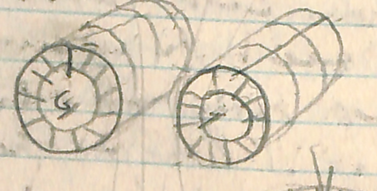
of 25 E machines sold to
Needle owners 7 owners
traded their machines for
Edisons (machines accepted
by shop) 18 bought
Edisons & kept Needle

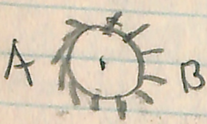
Edisons placed in Needle
owners homes put in
221 sold to needle
people as result 25
which is 1 Edison to
9 placed.
This is nearly as
good pulling in house
having no machine –
This 1 to 9
no mach 1 to 7

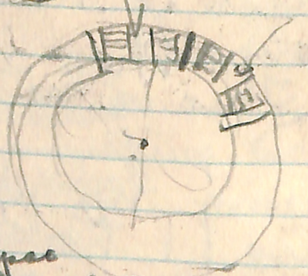
Try some expmts to condense + Cure in presses in less than 8 minutes, use more para more 6/4 bake higher or longer - lay out reg Campaign - go by wear test -

Try mix of sulphur + asphalt first alone then with asbestos

July 3 1922 Helicopt







Vanes Colapse
A side stand out B side, 5 ft dia 1000 Rev Sections 8" several sections put together in Each wheel - or small wheel arranged around circumference of larger wheel Single of Multiple Engines to drive

possibly long Cams to Control wings or blades

Edison - also Hart Expmt put Everything with Stearine + also Japan wax with fibre - see how wears for cheap records should be soft or Viscous + cohering not brittle and hard as supposed -

Try maximum loading with dry bentonite of our Varnish also china clay Wear test

Tell Taylor Woodfin has men that without dealer program to form balance of his owners we cant Edwards have Etc —

~~Let Fred go. as he Adjust now & would be dead in another position —~~

New offer to Woodfin men

HEP	22
Shearim	36 –
Chip	55

WE call & release them of responsibility —

Pay Cash on sale monthly – if in any month they dont earn Sal they pay us the difference

WE change selling terms to all machines 2 yrs – They try make at least last 2 yrs max —

1st Aug starts – we pay back sums they earned ~~under~~ before Aug 1 —

After 6 months Operation in Orange 72 boxes, 1440 Records 62 had to be replaced – or 124 per year this is 8% – & we can use this as a standard

The following is reason

Members put in an old record	26
Records spoiled by needles	14
Removed from boxes	18
Others damaged	4
8% yr 4% 6 month	62.

Woodfin reccommends
records be cleaned
every 2 months &
put in new Envelopes
fig cost Envelopes —

Puts Schemke on
new pocket mix
Low reduction temp
also Fe on MgO +
other supports to get
more out of our iron
pockets or Chlorinated Pulls

If 1 out of 36 people has
a phono + signs up which
is about what Oranges
do then in N.J. we will
have 187 full clubs
of 288 each as a total
of towns 2000 or more
leaving out Country
+ smaller Cities —
The smaller towns 2000
for instance will only
have 50 members other
town 288 & more than
1 club —
About 55000 members
is possible 2000 pop towns +
up — Small towns + Country
should add 10000
more members

Disc with Drummer
stories

Disc with Negro
stories End men & all

Taylor ~~Keep~~
~~Exact account of~~
~~Records ordered~~
~~from California~~
~~Tunes I mean~~

NJ Phonograph scheme
Dealers Assn
Incorp scheme
Indiana ditto ✓

Once a month issue a
disc with Negro funny
short stories one side
other white wit stories
other side - Irish, Jew, etc

Insane Comic record
Collins Harlan type + other
side Irish Jew Negro
Vaudeville -

1 Disc Hawaiian
1 Venetian Trio
1 Marimba
1 good Orchestra
1 Band
1 Heart song
1 piano -

6 Dance or 5 Dance 1 Spec

on order - Violin Opera
+ poor sellers

ask Launder
Ward, Cornel
Insull Co price to
Consumers WE renting
battery they put it
in. We take care
of it & furnish
Electrolyte clean
inspect etc —

Arrange with
Charles so Smith
knows new
schedule for
salesmen &
new 2 yr
installments

Set up 3 cells A4
with Straw oil on
top 1/4 to 3/8 —
first purifying oil
with 33% soda before
use — life test —

Try batches powder
wet by spray water
& then add Rosin
solution —

ditto everything
dried & then Rosin

ditto 2½% boiled
Linseed to Reg
Rosin Solution
if it will dissolve

Schmerka to hold
Asbestos & get loss
for 10 hours to see
what time does
Use 600 deg —

Whalen to fix up with
new Governor our 2
machines in Music Room
we test with —
non adjustable =

Try some of Edge
scrap flake sheets
in Endoy to remove
nickel ~~[illegible]~~ —

Print list of Needle owners
in Clubs to get Confidence
& speak of 8000 in Edison
clubs —

~~Wagstaff you have
sold 210 more needles
& dont see you have
increased clubs why~~

~~Meadowcroft get me
some Herring~~

In working a town
to standstill then
get future bldg
permits for future
Customers & go over
these Every year

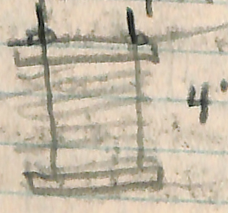
width Ni. Strip 1 3/16
Length 3 5/8 Thick 1 3/4/1000

Asbestos 25/16 wide 3 3/4 long
thick about 15/1000.

NiOH) 1 1/8 wide 3 9/16
thick about 25/1000, Wt 3.2
FeOH - same as Ni - Wt same
as Ni Thickness 18/1000

10 lbs pressure dry per inch
N.OH area

80 asbestos 81 sheets
Average depth of element



Dia rods 3/8 Cold rolled

Weights NiOH 205.6 grm
" Fe same
Weight sheet Ni 3 oz
" asbestos 3 oz
" Top & bottom plates both 215 gr
" Rod & nuts 215 grms -

One cell complete Wt 4 lbs
with Electrolyte & outside
fittings -
Dry Hardly think 2.8 lbs

At normal 6 amp chge and dschg.
32 To Volt 128.5

6 Times normal 27 amp hour
V 1.24 = 36 rate 6 times A4

50 amp almost 8 times
normal - 20.83
Volt 1.23

All above are chgd normal
6 amp

Spel Expt Chgd 18 amp
23 amp h. 1.2

~~Aylsworth Jot Wax~~
~~Job –~~

~~Cost of data~~

Best disc wax combination
July 30 1922 W Archer

$4\frac{8}{10}$ oz Caustic soda in
500 cc water.

$2\frac{1}{2}$ oz metallic Aluminum.

5 lbs 10 oz Sal soda is
then dissolved in 5100 cc
water then Lott makes
analysis to see if OK
if not either H_2O or Sal soda
added to get right density

Mix of wax consists
of 33% more Aluminum than
is in the Standard Reg
Wax disc record now
used

To formula stated
Stearic acid is added
till Congeal point reaches
255°F Then add
15% of white Ozkerite
from Strakel & Pitsch 30c
141 Front St NY

4 of Blanks sent to Miller
8 to Werner

Loss from turning Edging & drill
1 lb 13 oz from shaving
both sides 3 lb 3 oz
Unaccounted 5 oz
finished Blanks Weighs 19 lb

Total weight of mix
24 lbs 5 oz

Each blank finished weighs
1 lb 4 oz —
Turning & shaving clean &
Can be used

L&M Tard 6.81 present Crate
7 2d - probably for
Good Crate —

Lot ll - used 100 grms Ceylon
Rubber 2500 cc
Tetrachloride Carbon
& passed Chlorine
till 357 grams absorbed
Resultant OK OK &
think for Ambroid

Send some of the MOK Mortar
Mixed $NiSO_4$ Crys + Sal Soda 20%
Excess percolated to Shake
Make 2 short lites also
some of the big lot on rolls
Test for Loading a Elec Company
Seems no finer —

Load Chlorinated Rubber for
Amberol records loaded with
Carbonblack if dont wear
diamond - on account of bulk
to Cheapen - Possibly
Bentonite better yet, &
China Clay

~~Too fine grinding may be
Cause Cracks, probably
load of Mix alone
be reduced to stop
big fibres yet be just
as fine -~~

~~Try that Carbon will
dissolve Monel & deposit
Copper -~~

Aug 20/1922

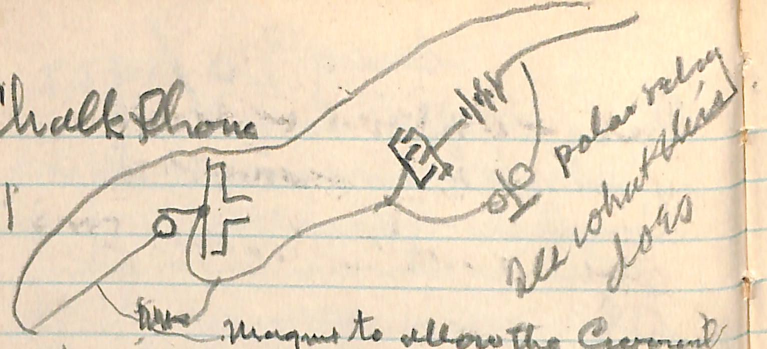
Press a disc record of
Tetrachloronapthalene
Crystals - flexible -

Also mix some
Chlorinated Rubber
white brittle slugs with
above & also flock
Cotton - possibly
Nap to soften more
by heat

Have surveyors mark
out 1st class district
2nd class & poor class
& Slum.

Think, should not try
sell big Mach in poor &
slum parts & demonstrate
with Smaller Mach

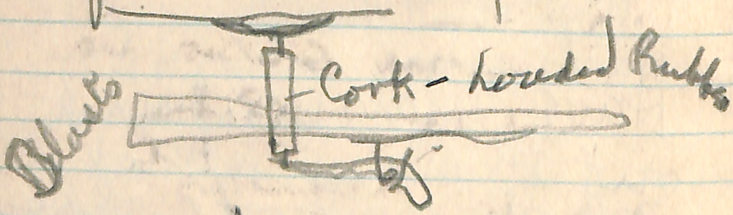
Chalk Phone

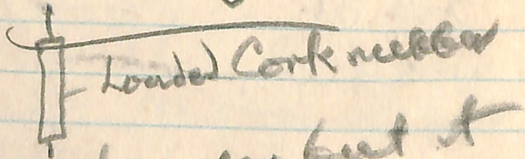

1
polarizing
see what this does

Magnet to allow the Current from chalk to circulate as a battery to create a Continuous Current so AC is made DC

*

Gibbs man Reg Repdr


Cork - Loaded Rubber
Blasts

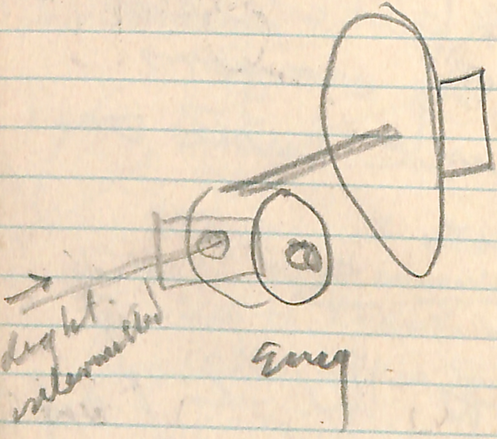

Loaded Cork rubber

Tried its 25% louder but it blasts a little showy & dont follow record

Aug 12 1922

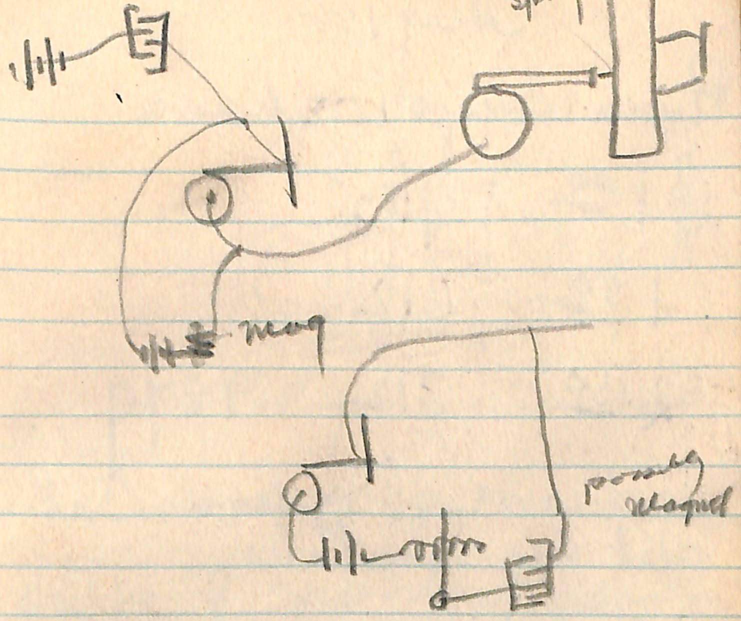
Put Fox trot & also Verse by singers of same tune on 1 disc

Stop the 2% off for cash when the turn over is now monthly 1% is enough


light intermitted
Eng

Jap patent say ~~[illegible]~~ Cu wire
Coated with Al or water
Sol of Zn or Cd $(AcO)_2$
+ then of rubber vulcanized
~~[illegible]~~ The CdS or ZnS
formed does not attack
the Rubber —

Perhaps Hard rubber
moulds could be
surfaced + Tinfoil
rendered unnecessary


spring
mag
moving magnet

Parcel Post Local rates

1 lb	5	12	11
2	6	13	11
3	6	14	12
4	7		
5	7	15	12
6	8	16	13
7	8	17	13
8	9	18	14
9	9	19	14
10	10	20	15
11	10	21	15

Aug 18 –

Ryan says we have

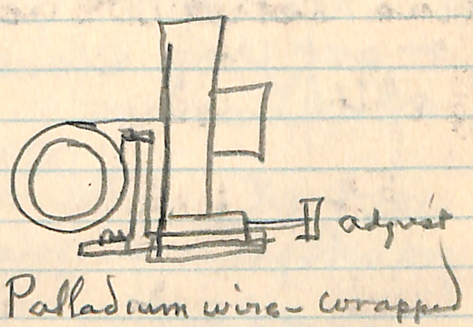
$1.00	955	
1.50	612	
2.00	312	1879

inclusive of records cut out by mistake

955	7 yrs	136
612	"	87
312	"	44

Other statements

950
540 } without the
280 } 175 CO records



3/4 turn

After 7 months operation of the 1576 original clubs members 144 didn't buy any records for 3 months & they were cut out leaving 75% still buying in August.

We may figure on 25% dropping out in hard times & in summer

Send list of 1st years records + get Wrap stock on hand of these

Write all dealers ask how many ordered

In our 1st 240 Rec
there are 2 Male
Quartettes sold 18
Mixed Quartettes 5 sold
28 —

Mond metal in Reg Nickel plating + also Copper plating on hot plate 168° Fahr

Copp Sol | after 403. | 739
loss 7.9% | 10.48

Ni Sol | after 192 | after 360 Hours
loss .14% | loss .18

Expmts on Osmion when Fred Ott gets back

1= Try sols of [illegible] Cl free KOH.
5 10 15 + 20%

2= Aid rapidity of diaphm by a stiff spring

3 Put in a Disc diaphm of Shellaced paper in large Osmion

4 Use narrow 3/32 Palladium pens.

5 Make chamber smaller if larger than Disc reproducer

6 See if boxes connected right

7 Try an induction coil to increase Voltage on line

8= put Voltmeter or Amp meter in Ckt + add res to ½ the Current while Turning to get Res of Myo

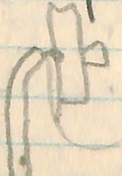
9 = .005 mica

alumina dome

10 - Use MgO - turn off nearly to gauge, dip in CP KOH 20% dry under bell + turn to size. then make track this will insure no scum or dirt filtering out on forming the track Evidently this has been our trouble. We havnt a MgO surface but a collection of filterable impurities -

11 = Palladium pens should be flat no ridges across + buffed so show fine under Microscope

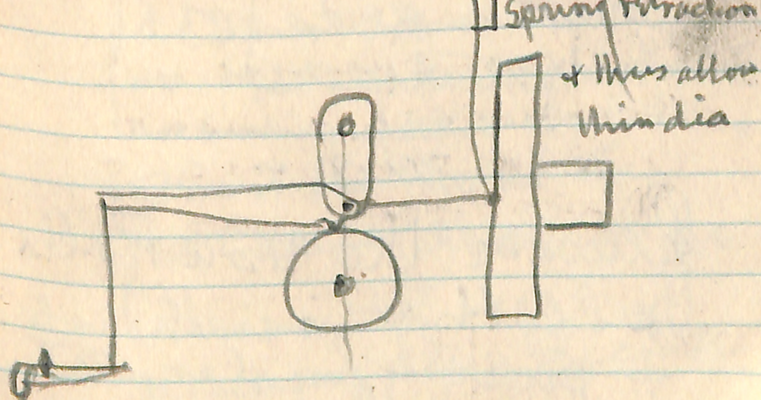
12 -



put a link in

Ferrous Salts not affected by O-Phenetidin while Aluminum ~~Completely precipitated all must be reduced to ferrous K Chalupny Z Angew Chem 1922 35 - 233-4 from Jnl Chem Soc Aug 15/92~~ precip from HCl Sol

DeLaval make a separator for Clarifying Varnishes think it would save us discards if we used it on Varnish



Treat some Asbestos
paper hot with Alkali
25% Hot for week
ditto HCl & also 25%
H_2SO_4 — also with
Caustic Lime

Hanley test in CCl —

Scramble some Asbestos
paper & see if any
Sand & Clay in it
also study 2 or 3
inches area for
impurities —

Remove the Iron Rolls
in OH & Crush up
& purify by decantation

Treat Canada & Arizona
Asbestos with Conc HCl
also - with 21% KOH,
& also both HCl &
KOH make bats &
test by 300 rolls to
break down

Treat Hot Arizona & Canada
HCl, wash & semi dry &
treat again Hot HCl see
if time is necessary

Get record sales to
dealers from Roth
for 1920 21 & 22 to date
as basis for negotiation
& start Roth out to
get Combn dealers go
Edison after get a
plan of wkg Record

Canadian Asbestos is
a Serpentine Asbestos
has same comp as
Serpentine its Called
Chrysotile

Treat paper with
20% NaOH hot plate
for 1 week & wash

Hanley Bake Canadian
to 700°F for 24 hours
& try —

Try Blue Asbestos
agitating in a thick
liquid like Conc
MgCl & see if fibres
separate

Try Act on Blue by
~~Acid~~ KOH 160° for 3 days

and then squeeze out the
KOH by hydraulic & then
put in boiling water &
wash

ditto act on by boiling
KOH. Conc say 33%
see if whole is dissolved
or it stops —

On account of the Asbestos
fibres being many times
finer than Cellulose
& so flexible they bend
around Each other on
pressure there are an
extremely poor fillers
Especially Blue
Must have starch
or a filler that will
not dissolve in caustic
but will dissolve in
2% KOH.

Sept 9 1922

E & Hawley try 15% Soda on Asbestos + in Cells see if difference.

Try 4% LiOH only also 1/3 Li 2/3 KOH or 1/2 + 1/2 so save asbestos

Dip Asbestos in Alcohol Mg + treat with KOH or NaOH + percolate & dry or MgCl conc.

Mix Asbestos pulp + Mg hydroxide + make paper + Dry

ditto with Light Calcined Mg Ox different proportions

Sept 11 / 1922

~~Dry Fluffed Asbestos fibre spray with~~

Try Kieselguhr ignited white heat for mixing with Asbestos for Ford Starter

Try mixing ~~Gu~~ Gum Dextrin - as above

Starch heat to 160 cent Converts to Dextrin

Kraft paper 7c

too much was 5½ C

investigate -

~~Kauffmann - boxes don't Come in very Green think we should [illegible] him off with green labeling -~~

Cost Disc Printed
Labor 17%
Supplies 1/2
Repairs
Recording
& Bargained
082
37.2

15% Rebate
2% selling
18% lower planting
Room with [illegible]
8.2 Costs to be added is 59

~~Leg~~ [illegible]

July from Jan'y 1
1922

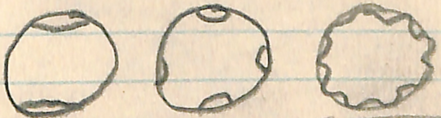
Schimke Try Taking out CS_2 by Copper turnings from new Tub etc

~~Roth - why do you not make reports to me of progress - I am the only one in this outfit who advances men when they make good - without Continuous Touch How am I to know a man is making good - You are standing in your own light~~

~~Pulp same on no~~
~~Starch dextrin~~
~~Canada thin & see~~
~~if there isn't sand~~
~~or rock particles~~
~~assay these for~~
~~Aluminum~~

Regeneration of Tubes

1 = Roll in fine flour nickel
2 Reduce & then use acid
3 Reduce & reverse 48 hours 1/4 current
4 Reduce then acid wash & force moist thru a die
5 Corrugate after reduction



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6 Open ends after reduction & tamp - in die - or hydraulic
Special grid for short tubes

Note for permanent Record
Cells after forming. One set
Chgd the other set) dischgd &
short ckted for 10 weeks.
Only the discharged & shorted
Cells were good 182 the chgd
Cells, only 153 after same
Chg !

~~Test Gelatin as to solubility in~~
~~20% KOH. also Gelatin hardened~~
~~with formaldehyde —~~

ditto Casein —

~~Ditto Silk fibre then mixed~~
~~with asbestos would it~~
~~dissolve out so fine.~~
~~also wool.~~ Nitrocellulose Silk

Cant see why we should
any longer try to save
weight of battery when
nobody appreciates it

See if we can use
.06 or .07 Steel in tubes
+ thicker + more rings

also Iron pocket
.04 or .045 —

We should also make some
cells not tamped so hard
to stop swell

Dally Make ~~some /90~~
powder and ~~then make~~
a batch of ~~3~~ Viscosity
Varnishes ~~Reg as now~~
Say 8 ~~6 + 4~~ —

Sept 21/22

Salicylic Acid ~~0.22~~ at 25c in
Water, Potash salts sol.

Phthalic Acid ~~0.54~~ in water
K Salt Very sol

Sebacic Acid 0.02 at 25°C
K Salt sol

Santonin Acid sol 5000 pts
water – K Salt Sol

Suberic acid

Cresolic Acid ~~insol~~ Para
meta + ~~ortho insol~~

Naphthylamine sulphonic acid
[Naphthonic Acid] Sol 4000
parts water – needles when cryst
from hot water
Beta Acid sol 25000 pts water

Meta Ortho or Para
Nitrobenzoic Acid insol water

Isophthalic acid insol water

Salicylic Acid sol 450 water
at 15° C

Sulphanilic acid slightly
sol water

Para-Toluic acid, prob insol
water - Made by Ox of
Turpentine by Nitric

Agar Agar acts like starch
in boiling water

Nitrocellulose Silk - try film
stock sol in KOH.

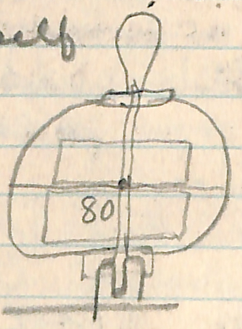
Send for 2 lbs good Grade
Salicylic Acid –

Mix some green & powdered
Salicylic together & load
2 short tubes for test.
2 " more for test in
10% KCl – ~~+ 2 reg as check~~
~~not in KCl –~~ by grown 2 Reg
in KCl. 10 grams to test case
see works –
Mix 5% then 10 then
20% – + make tubes –
Soak out in 10% KOH,
+ get test from Schmenke
for salicylic – then
put in Reg 21% KOH +
test.

It might be good Expmt to
leave 10% of Na Sulphate in
our green & make tests
soaking out the $NaSO_4$ in 3% KOH

NOTE ↓

Since we are able to mix binders without alcohol for disc blank it opens the use of other binders than Rosin
Hard Pitch thinned by Strawoil
Petroleum Pitch B.S. for softening
BS itself



Wind Vane Indicator

See if BS mixes with Rosin & makes it sticky

Carterswith Slate 10 mesh ignited 1750 Fahr-ground & floated, ~~[illegible]~~

200 grams Slate 200 CaO - 2400 grams water but some of this water is in Combin with Caustic 30 days treatment at about 180 Fahr

K_2O in Slate 180.6 K_2O

gave extraction 147.2 K_2O

or 81%

Extraction with 1600 water
Extraction 69%
with 3200 grams H_2O 78.13%
& with 4000 " 72%

Schnecke Thinks with the 2400 grams we shall Evap 3000

Slate was not ground fine enough ½ a fin

~~Film stock is slowly attacked 21% KOH~~ N G for battery

Hog bristles diss. 24 hours in 21 KOH. Scarcely any Residue

Silk gradually dissolves in 21 KOH.

Gelatine all dissolves 24 hours 21 K slight flocculent brown residue

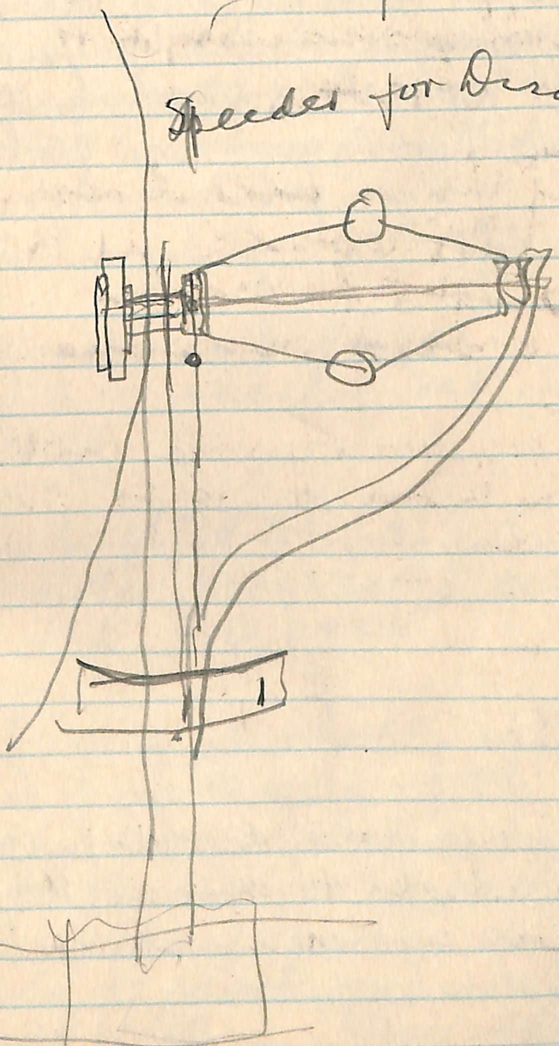
Try starch with $Ni(OH)_2$ in tubes, 5 10 25 50% dry —

Get Jandas for Studio $60

Try Mg Carb & Mg hydroxide in Chalk phone as the Calcined may Cut palladium

Sept 22/22

Try a tube filled with Ni Reduced by H & charged using Fe or Zn



If our New Disc governor
had twice the surface it would
wear twice as long because
pressure would be 1/2 on
area - & friction still
be the same - see Whalen

For making more porosity
in Ni hydroxide material -

Alizarine Sol 0.03 pts 100
boiling water - Very sol alc
prepared treating dry Ni OH
with alcohol before or
after loading - BP 173

Benzanilid Insol H_2O
Very sol Alcohol MP 128
BP 290

Beta Naphthol Slightly Sol in
hot water - Very Sol Alcohol
MP 122 BP 289

Best way probably is to
grind fine & mix with the
green some Salicylic
or phthalic or Cresotinic
acid & then make in
tubes & work out in a 3%
Sol of KOH - This will

give any internal porosity needed according to % used & Tube will not swell & disconnect flake from walls as swell will be taken up by Porosity due to removal of the K Salt of the disc which is very valuable

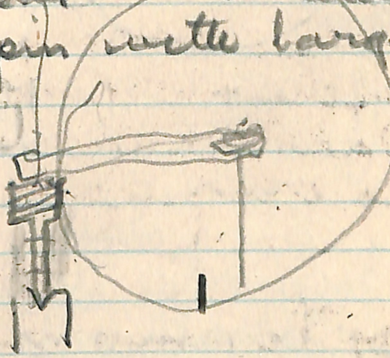
for timing disc

Have pendulum to beat 80 or 160 near platten secure to platten or magnet— when speed gets 80 it will start pendulum as it then coincides with natural period

Timing disc

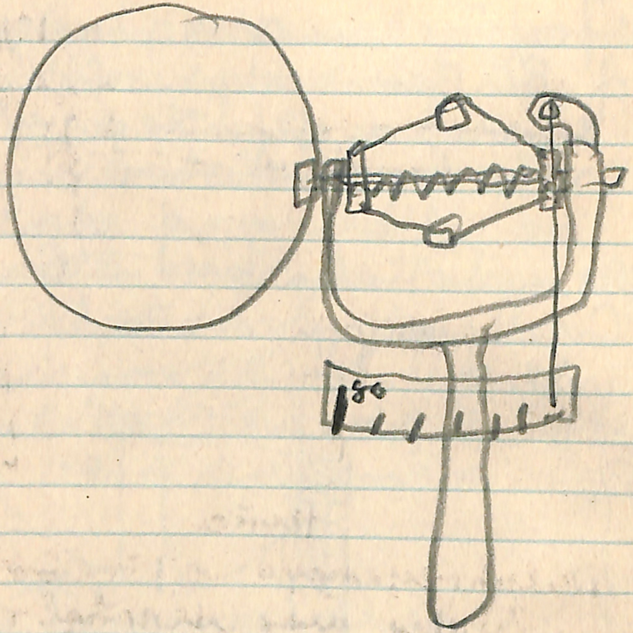
Fixture on arm & index— if 80 Rev index will reach a definite point in 1 min by watch—

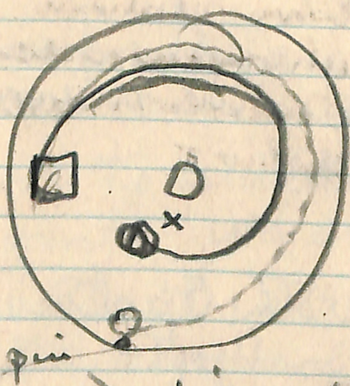
Or a Counter held in Center Cavity or pin with large index—



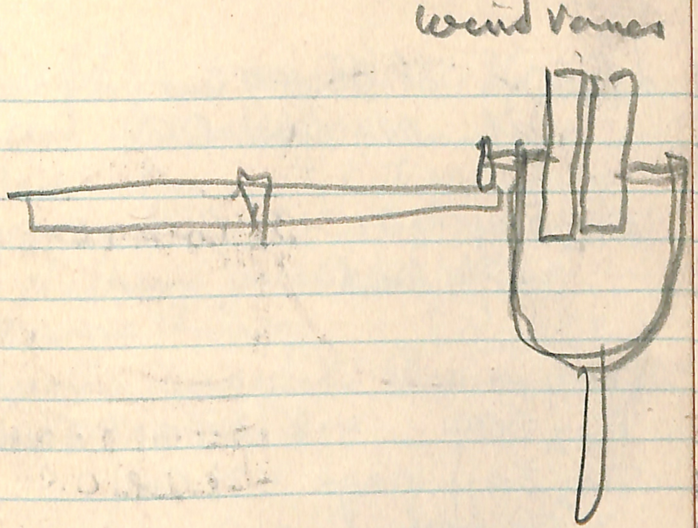
Must give one revolution to be 80 in min by watch

Disc with Spoken words 1 2 3 up to 80 watch when word 1 comes watch starts when 80 is spoken—watch shows 60





A second disc like on
when x strikes pin its 80



Ferric
Sulphocyanate is very sol
in Water also Alcohol &
also Ether perhaps
Sulphocyanic acid
will dissolve Fe_2O_3 from
old tubes—

Li_2SO_4 Sol 35 at 0 Cent 29 boil
Solunable Alcohol

Li_2SO_4 H_2O 43½ Cold 0.C
35 3/4 boil

Na_2SO_4 – 4·8 at 0.C 42 boiling
Na_2SO_4 10 aq 43½ Cold 0.C
35 3/4 boil
Both insol Alcohol

If NaOH will displace Li
we would get Na_2SO_4 + LiOH. Try
Dry & remake Li by alcohol

Barium Carb 500 lbs lots
$75 ton foreign 70
precipitated 70
BaOH, 500 lb lots 5 cents
$100 ton

Carb Strontia 7 cents lb

Add Calcium acetate to Na_2SO_4
filter off the $CaSO_4$ –
destructive distil the acetate
get acetone + Carb Na –
Lithium probably do
same thing
Another suggest Barium Acetate
Lead Acetate –

NaCl mixed with KOH, Exchanges
forms ~~KHS~~ KCl + Caustic
Perhaps Li_2SO_4 will Exchange
& form K_2SO_4 + give Caustic
Lithia –

Try KOH, also NaOH on
Spodumene – perhaps will
Exchange

Try Acetic Acid on Spodumene

Lime hydrox sol
acetate soda
Chl ammonia
Ammonia Water
use these Catalytically
for Li Ott

Fred Otts Very fine Spodumene floated
ignited - 2 gr Spod 1 CC H_2SO_4
4 water got line in spectroscope
750 CC 2nd run 200 3rd
run all night 150 -
altogether about 18 hours
with this fineness 24
hours should get it all out
Fine grinding is the whole thing.

AN Gassett Embudo New Mex
Clean undecomp Spodumene
Assays 6.55% Li_2O

Data from Selling in
Indianapolis

~~$~~ 2918 houses visited
Homes without Phonos
1193 40%
Homes with phonos 1725
59%

Victor	748	43% %
Columbia	209	12.1
Edison	183	10.6
Brunswick	126	7.3
Pathe	70	4.1
Vocalion	54	3.1
Sonora	51	3.
Vitanola	40	2.3
Cheney	33	1.9
Silvertone	20	1.2
Other Makes	191	11.1%

Edison Sells 10%

OVER

Musical Phono sales Expense

1915	13.5%	of Sales M+Discs
1916	15.3	"
1917	19.1	"
1918	14.1	"
1919	12.3	
1920	17.9	
7 month 1921	28.3	

Indianapolis Conference
Victrolas pbly higher mean
Couldnt always get into as
many people call all
phonos "Victrolas"
Rosenberg says he knows
of cases where Victrola
turned out to be Edisons

2 Hours in Dinwiddies
Ball Mill 7 lbs from
Swansey Mill finest
grade in size sent us
7 lbs put in -

Floated 4.5 grams coarse
4.2 fine but not ~~[illegible]~~
as fine as Fred Otts machine
ground should say each
particle should be split again
to equal - This seems favorable
asfar as grinding is concerned
Think we should put in some
1/2" balls ~~now~~ balls are 1" & 2"
no fine balls

---

4 Hours grinding
1/2 OK and about same as
Fred Otts best - 1/2 finer
than the 2 hours coarse
Think this will be OK for
quick work of all [illegible]

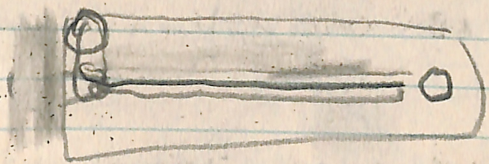
be as fine as 1st/2 then
there must be 2 mills &
a separation into 2 parts
& Coarse reground & another
separation returning the
too Coarse to 2nd mill –
by this even 3 hours would
probably be O.K.

Evidently the fineness
increases by time but the
relations of Coarse &
fine keeps constant
the whole getting finer

Spodumen Hardness
6.5 to 7 S Grav 3.1
before blow pipe loses Transparency
intumesces & melts to glass
globule Silica 65
Alumina 27-29 Li 3.8
5.47 4.49 2.9 5.67 5.08
pure should be 6.14 Li2O

Probably needs ignition till it
loses transparency & then
ground, it will be more friable
ground easy & be porous.
might mix with Lime caustic
or Carbonate –

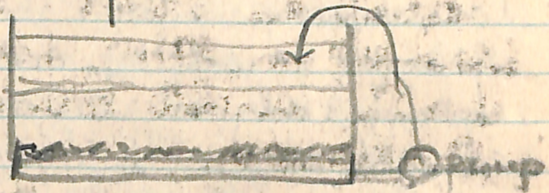
Small adit Ephraim
all my paper claiming
Nov 15 –



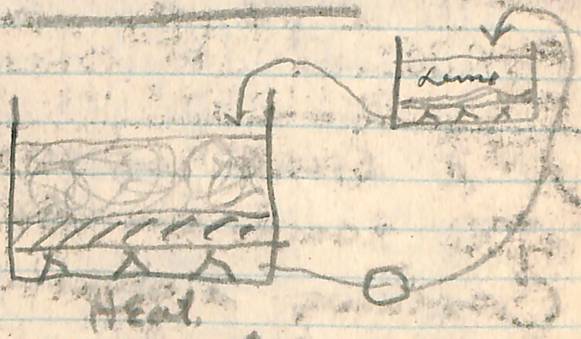
Try $\frac{1}{8}$ + $\frac{1}{4}$ Spod in
Hydraulic –

Oct 2/22

In leaching Spodumene K Co



as solution comes thru
pump it back over & over
gradually drop & displace
with clear water —



Lime water

Crude - not floated

No 1 — Takes 1/8 mesh
ignited 1900 1/2 hour
cooled in air ground
ball mill Diamond
2 hours —

2 grms Spod 2 grm
Lime 40 boiling water
to run hot on water
on hot plate — on 12 40
off washed after 9 am 20 hour get
1st wash 170 cc — put back 100 cc water

No 2 Deep hot water
after considerable
Cooling - 2 grms Spod
in a set away cold
to check No 1 Hot
on 1,35 pm — off 9.40 am

with 80 cc no line shows
put back to soak cold further

No 3 Dup of 1
Except one gram
of lime - well slaked
by boiling water & boiled
afterwards 3 min or
more on at 3 pm
only faint at 100 cc H_2SO_4 4 pm -

No 4 - Dup of 1 but
1/2 gram Lime well
slaked - on 3 30, - 4 pm
about 160 @ 170 - cc H_2SO_4
very faint HCl after H_2SO_4 200 cc

No 5 Dup of 1 2 grms
Lime but slaked by
very little boiling water
& the balance added
after - so no lumps -
on at 4 pm

No 6 Dup 1 2 grms
Spod 2 Lime well
slaked - Some straw
oil on Top - on 3 pm

X is Lime water to
all of gets Carbonated
during the night
on 3 pm
was badly ~~Carbonated~~ - precipitate

7 - Dup 1 but no lime
2 grms NaOH, found dry
40 cc water at 9 am -
on 3 pm -
~~Neutralized HCl~~ after filter 80 cc

8 Dup 1 no lime -
2 grms KOH. 40 cc
water on 3 pm

7½ 2 grams NaOH
but 1/8" water above
Spod on 3 pm
on faint lint. Cone

8½ 2 grams KOH. 1/8"
water above Spod
on 3 pm

Of the 7 lbs of Spod
Takes ignited ½ hours
at 1900 1/8 size & then
Whole ground in
Denwoldin Ball Mill
2 hours

WEighed out 20.79
& floated fine Enough
WEight of float

was 16.336

of Coarse 4.454 grams

Most of Coarse is quartz
This will be good
Enough in practice.

Ignition helps enormously
the grinding - ditto action
of Lime -

This is 84 lbs 24 hours
with Mill 10 ft it would
be 840 lbs, but of larger
diameter & more feed
undoubtedly 1 Ton could
be done with Tubes
per 24 hours -

Send for LeFevre & talk to him

Try 2 grm Spod Tailin
Dip No 1 2 lime &
½ grm Chl Ammonia
Dip Sulfate Ammonia

Notes = Clear lime water saturated is found after 15 hours on hot plate screen very much carbonated & precipd showing that carbonating must be provided for

Also the spod fines cakes very hard on bottom of glass beaker thru which it gets its heat. This exhaust lime mixed with it & no more can get access. This is absolutely fatal should be a false bottom so heat comes up thru water. It seems that the best solution of the problem is shallow tanks and lime water continuously passing thru both hot - this will render it unnecessary to continuously stir otherwise we must stir. The later may be preferable as we can use deeper vats & as we use excess of water paddles will work easy. Vats must be closed to stop carbonating. Pulp can be transferred to Displacers.

Note Li_2SO_4 is not sensitive on asbestos but if dipped in sol dried & few drops HCl dilute be put on Asbestos hence much more prominent color lost with H_2SO_4 HCl brings out thing

Test the Embudo Limestone

Reg Cement Rock
Lime 66 Carb 6.2 Mg. Lime

SiO_2	13.55
Al_2O_3 & Fe_2	7.50
$CaCO_3$	68.50
Mg	5.80

Oct 9 /22

Lime or Acids dont give good results with Old Talus from Swanny mine 60 lbs ton Can only get 3 or 4 lbs out by lime & probably twice as much by Acid!

I took two grams of the float & 2 grms Chloride Calcium mixed together in porcelain dish & Heated to Red for 3/4 hours, Cooled off & leached with water the 2 grms gave a faint line with 1000 cc water Equals 30 lbs Extraction of about 1/2 had I kept it from air and 3 hours heat think I would have got it all

It evidently attacks the Spodumene — Another Expt
2 grms + 16 grm salt = 40 lbs Li_2O

Sol	Cold	Hot
$CaCl_2$	59.5°	154 °°
LiCl	63.7°	129 °°
NaCl	35.7°	39 °°
KCl	28.5	56.6
only BaCl	30.9	62.7
" Ferric Cl	74.9	536
" Ferrous	64	105
$MgCl_2$	52	65

Selling Power Ely from Oct 5/92

all Catalogs	Sales offered 1st 9	Selling Power	
Opera	31	1.00	X
Cello	4	1.37	⊕
Foreign Lang + Song	9	1 45	
Religious	14	3 57	⊕
Heart Song	70	4.29	⊕
Violin	8	4.58	⊕
Orchestra	22	6 57	⊕
Comic Sing	6	9 94	—
" Talk	5	10 17	—
Band	23	11 23	—
Cornet	4	12 24	—
Xylophone	3	12 55	—
Venetian	7	13 55	—
Dance	23	15 13	$ —
Banjo	3	15.17	—
Piano	3	15.90	—
Marimba	2	17 20	—
Whistling	1	22.75	—
Hawaiian	2	25 34	—
	240		

X $2. ⊕ 1^{50} — 1^{00}

Conc HCl precipitates NaCl from solution – try

When a saturated sol of NaCl has added to it a saturated sol of KCl, KCl dissolves + NaCl is precipitated until a definite Equilibrium is attained

Excess NaCl —

The dead labor + material and 1 cent allowed for each discard on return allowance from jobbers we can reprint for 8.26 cents each 100% ok + more cost as % drops we new smaller ring Mould holders + proper schedule think we can get 70% or cost about 12 cents We Can reprint most of our own daily discards

Archer Alstin, Poule

	- Highest in our orders		240 Total Stock	7 factor Total
La	34		22 882	150 174
Ga	33		25 692	179 847
Pittsbg	26		22 743	159 201
Syracuse	22		16 534	115 738
Indiana	22		22 438	157 066
Chicago	21	a4	23 081	161 567
Cincinnati	17	44	16 771	117 397
Neb	11		18 885	132 195
Va	11		16 206	113 442
St L	11		20,025	140 175
Kansas	6		12,656	88 592
Texas	6		11,252	78 764
Minn	5		13,310	93 170
Clev	1		6,579	46 053
Mass	1		6.706	46 942
Winnpg	1		7.730	54 110
Mich	0		3 814	26 698
Albany	0		5.462	38 234
Iowa	10		18 274	127 918
				2.027.283

Where is Desmoines

Oct 12/1932

Embudo good Spodumene I note is quite white, Whiter than the sample first sent, but it dont seem decomp, 1st Sample 6.55 Li_2O -

Raw 2nd lot ground 8 hours in Porcelain ball mill
Makes lots of fines
Floated stuff runs thru filter
Very bad - much worse than Swanzy Tubes looks like
Easy grinding

get from Egerton Y[illegible] Spod + reduce the Hanley Cell + then have tried out Cut it apart.

Medeft phone Secy Chem Soc Library if they have a book showing

Methods of separation
of Chemicals by
Crystalization

Soak asbestos in Solutions of Asphalt + Residues not attacked by KOH + dry to leave a film on so KOH will not attack asbestos film being very thin so its porous, some of new Tetrachloride Caoutchouc Might answer, its not attacked but ~~and~~ may not stand heat Get solvent that will also dissolve ~~rubber~~ sulphur + Vulcanize it if it will—

Try Rubber solution with Max rubber soak then dry + Vulcanize

Oct 12 / 1922

Possibly Coumarone Resin
Gutta Percha Balata
Pontianac,

Fred Ott Squirt Tetrachloro Rubber in thin filaments in Water to set it ditto Squirt Rubber dope into Alcohol, Kerosene + other solvents. Ditto dope having Enough sulfur to make it Vulcanize to Hard Rubber then make felt or Cloth for replacing asbestos in Ford's

Get
Electromagnetic
Theory Heaviside
3 Vols new—

Colloid Asphalt Mix
Sulphur Mechanically &
by solvents Vulcanize in
Stirred Water solution
boiling at Vulcanizing
point.
Separate the filaments
into a non solvent

Try ~~Carbon~~ Red
~~Japanese~~ bamboo
~~paper~~

No 3 Sample Talus from
Mallory 3 samples
Screened, The smallest
size that can be
hand picked at its easy
is the 1 inch size
a 1408 grams ~~[illegible]~~ sample
after picking shown

820 grms picked Quartz
with practically no spod
& 588 grms 85% Spod
The other samples practically
shows all Spod splints
The ore is such that all
the quartz is large &
nodular & dont weather
or break up. & therefore
by hand picking of
1" & larger 85% will be
spodumene not less
perhaps 80%

Of inch size perhaps a
boy could only pick
300 lbs 8 hours
which at 2ct would be
$14. & it would scarcely
pay

The next size is
2 inches this dont take
over 1 minute to pick 1408 grms

from which 288 grams
spod (7 pieces) leaving 1112
grams gummy this figured
gay bag - $3.00 a ton

Mallory Sample No 3
from Talus fallen
down hill from
Swanzy Mine

	grams
Thru 10 on 20	2560
" 20 on 30	1900
" 30 on 40	940
" 40 on 50	655
50 on 60	440
60 + finer	3180
Coarser than 10 mesh	230
Thru 1/4" mesh	3365
" 3 "	1890
" 1/2 mesh hole	1950
1" "	4690
2 "	2635
over 2 mesh	1525

Took some No 3 sample, took
1/4" mesh -
Batch #1 19 lbs steel balls
Porcelain Lab mill -
over 40 mesh 405 grams
under 95 grams

Weight without balls
passed thru 40 mesh 10 grams
Coarser than 40 490 grams

passed with 9 lbs balls
thru 40 210 grams
Coarser than 40 mesh
290 grams

Note This separated
gives 925 grams thru 60 on 80 ~~[illegible]~~
350 grams thru 80 on 100
+ 1905 thru 100 -
seems to be 90%
spod -

Sales phonos July Aug Sept from
917 dealers –

Chip	617	Jacobean Oak	35
Hep	1171	Sheraton mahog	7
Sheraton	821		
Wm & M Mahog	55		

CONSOLES

XVIII Cent Adam	29
Italian	9
Chip	150
Wm & M	128
Baby	205
Miscellaneous	280
Total	3502

3
10506
4
42024

Stock on hand Sep 3

Chip	2094
Hep	1912
Sheraton	2225
Wm & M	483
Jacobean	179
Louis XV	27
Sheraton mahog	16

Consoles

XVIII Adam	58
Italian	10
Chip	209
Wm & M	160
Baby	391
Miscelly	900
Total	8564

If this represents 1/3 of the year's
than sales at a rate
of 42000 annually &
we mfr 150 daily
+ tell dealers we'll have
25692 machines on hand

~~Dip the Blotting paper~~
~~Carbonized at 500 into~~
~~our Rekord Varnish~~
~~thinned down – 4 or~~
~~5 thinnings 1/2 of 8 hours~~
~~1/4 – 1/8 | 1/16 + [illegible] carbonize~~

~~Dip (carbonized) filter paper~~
~~cloth etc in a solution of~~
~~The Chlorinated Rubber~~
~~different dilution &~~
~~dry well. Then heat~~
180 in 21%
Ditto Rubber solution [illegible]

100 to 150 mesh Charcoal
MgO from powdered $MgCO_3$
100 to 150 mesh - Then wet with
Rubber dope thin containing S.
or not rolled out - + dried
ditto rolled out put ~~on~~ between 200 mesh
+ blown thru + dried
Ditto use Chlorinated Rubber
dope, Various Viscosities till
got right porosity

Patent Ford starter, all Cobalt
also Ni & Cobalt instead iron see
what have patented or applied for
under this Condn

Dip Asbestos in Chlorinated thin
Rubber dope, dry - + see how
porous.

Monel Metal in Reg Copper
plating sol (disk)
1938 | hours on hot plate
Lost 20% Screen 1/4" above

ditto in our Reg nickel
plating sol for disc
1559 | Hours on hot
plate screen 1/4 above
lost 0.7% —

Chlorinated Rubber in
Benzol - Carbonized
Cheese Cloth Sol thin
dope thick enough so
when dipped & dried
it penetrates threads fibers
& either nearly covers
Increases strength sufficient
to handle good. Holes
all open. Can use

Close weave cloth a greatly strengthen + keep holes open + when dry 3 or 4 thick get good strip - dries quick

Our blotting paper is full of filler clay I think - No 9 I think for 7 Standard filler Carbonizing shows to be free of filler.

The Carbonized blotting paper is 143° Fahr in 10/20, a slight yellow tinge in 21% KOH but intact OK - 25% H_2SO_4

Last lot 15 lbs from Embuds Recd Oct 10
Letter Oct 12

Crushed to 1" hole + hand picked gave 2135 grms of 85% Spod + 76.2% 640 grms of 45% Spod

---

As far as I can see the Talus of Swanzy mine is purer in Spodumene as the fines go up 100 mesh stuff thru 100 mesh is practically all Spod splints but it may be poor in lithia 2" + over 2" is Quartz scarcely any spod tell Hanley if he dampens his Iron & Exposes it to air for any length of the time it oxidizes should have KOH —

Fred Ott Next lot Carbonyl use thick Lab filter paper its free of loading

Hanley should go over to SB & find out how they test with the Cadmium Electrode to tell if its the Iron or the Nickel ✓

After 4 days. pour out Solution from cell being reduced & put in 3½ % KOH, heat one day pour out put in fresh & 1 day more & then once more

Save all sediment & when Cell Cut open see if any on the bottom Caked on or out on Edge of asbestos out of Contact

Before Cut open use Sol 1% KOH. & warm 6 hours drain & Cut open put in a jar if possible & Exhaust with Water pump to dry quicker if possible.
~~Then dry over hot plate~~
~~[illegible]~~
after dry test Contacts Electrically —
then take apart if thick
Wet & take apart,

Spodumene Theoretically pure
Si 64.2 Al 29.4 Li 6.4
melts at 3.5 to clear glass
8 samples different points world
Li - 3.84 not attacked acids
5.60
5 47
4 49
5 20
5 05
4 99
5 65

Oct 24/22

Possibly Chlorinated Rubber with very large Excess Naphthalene will Roll out & then by Vacuum & heat The Naphthalene Can be got out & Sheet made porous for Ford S

Kansas says we dont fill order for Catalogues for 3 or 4 weeks - Jobbers dont get them

19 days days to Minneapolis fast frt approximate

Hildebrand fig out Parcel P, Express fast freight time & Costs for 50 lbs 100 & Each hundred thereafter

Arrange with Disc Dept & Ensure that each jobber gets a copy of all our order numbers - no returns on these

get inventory of California
Jobbers records
we have left him out

See if our Gresham KOA
and get famous men
in it,

get sales + reorders
all flash group +
set a figure that we
can mfr 1st orders +
anticipate the 2nd

Oct 25/92

Just tried Expmt mixing on
small differential speed rolls
hot 10 grms Rubber Chloride
+ 3 grms Napthaline — but we lost
considerable Nap think
only got in 2 or perhaps 2½ at
most, lost some Rubber —
Weight 8.2 instead of 13 if
nothing was lost

The quality of the material
is OK — when we can mix
right think 10 Rubber +
2½ Nap OK + steam just
under point of bubbling

Well now try a new
Solvent of Rubber Cl
+ a solvent of Napthaline
+ mix at 1st in Hot
hydraulic —

Our sales of records
average say 5 of 100
5 of 150
1 of 200 / .32

Leaving out royalty
66 cents each
paying royalty probably
outside of 2c 62 cents
deduct 9 cents return +
1 cent Coupon 52 cents

Solvents for Naphthalin for
Chlorinated Rubber –
Pet Benzin 100cc Room Temp
Benzine 16.6 grs
Kerosine 16.4
Gasoline 18.5
Price gal Benzine 21½
Kerosine 10½
Gasoline 24"

Gasoline at
100° Fahr 26 grams

Jobbership return irregular
Return accounts very
tardily – Have circular
sent to Jobbers to step
lines & use more care

See Moore's Report
filled with Medoff

Root a man on investigating
Educational Music Talking
Health Records offered
by our Competitors
Maher would be a bad
man –
Ask Chas to hire
Maher –

Dip some pure Cotton
Cloth not loaded in Concentrated
Acetate Magnesia, dry
& Carbonize 500 & see
if acetic all driven off at
500 & hold 500 2 hours

Carbon Condensite film

Hanley make some Sulfite
pulp paper 30 to 40%
MgO Calcined

Try Open cloth, put on thin
Milk MgO dry then another
Coat dry etc if ~~works~~
~~wth~~ dont break & show
Cloth or light thin by
bending Make some
for Carbonizing –

Burn the filter press cloth see
how much Ash

Mix gasoline Naphthalene by
cc + Rubber Chlo by weight
then dry + try Hydraulic

~~Get different samples~~
~~Cloth fairly closed + Open~~
~~use MgO + Carbonize~~
~~Cotton Tape –~~

Try Beta Naphtol for Rubber
Chlorinated –

Fred get cloth free of
Ash to Carbonize with
Hanley Sulfite paper

In MgO crucible fuse
Spod mixed with Chalk
or a little iron in such
proportion fuses easy +
well slake in water
or if not fused well clinker
+ slake

Shift Amberolas Mac
from those who have
them to those who
have orders + thus
relieve jobbers + dealer
Fill order We Not making
any more

One Clerk at Orange
whose sole business
is to keep Jobbers &
Dealers informed
& shift from Jobbers &
dealers to other Jobbers
& dealers surplus
stock i.e. Dept of 1 man

Also man for checking
& tracing time lost
& delay in all orders
to be explained at
stock room & to
investigate complaints
& answer same on
orders —

Bradshaw for Contracts
& Green his assistant

See if we cant make
arrangement with Author
to specially Mark &
sell records to public
use of Copyrighted stuff
played for money —
& we pay Extra royalty

Perhaps violent whirls
of sun spots would
affect Selenium Cells or
Photo Cells through
the Audion & we could
hear them —

BaCl 2 H2O MP 960

Try BaCl, anhyd instead
NaCl for Spod
MP 1700° Cent. 960°C
as its regenerated can
stand the Expense
30 cold 42° C at 100 C

$BaCl_2$ 955 MP 30 Cold 62 Hot
" 860° 2 aq° 36 " 73 Hot

CdCl Anhy MP 590 C. BP 861-954
140 Cold 150 Hot.

CaCl. MP 710 to 806 – 49 Cold
154 boil.

$CaCl_2$ $1H_2O$ Cold 57 Hot 179
$CaCl_2$ $6H_2O$ MP 29 – Cold 96 – 300 Hot

Ferric Chloride. MP 301 –
Cold 158 – 536 Hot.

$PbCl_2$ MP 447 BP 861 to
954 Cold 0.67 Hot 3.37

LiCl MP 491 to 600 63 Cold 129 Hot

$MgCl_2$ MP 708 – BP Redheat
Cold 52 Hot 65. 50 alcohol
MgCl $6H_2O$ MP 100 – Cold 167
Hot 367

MangCl_2 MP Redheat
Cold 62 123 Hot.

$NiCl_2$ Sublimes – yellow
Scales – Flake?

KCl – MP 740 to 800
Sublimes white heat.
Cold 28 Hot 56.

NaCl MP 780 to 820 BP
White heat Cold 35 Hot 39

StrontiaCl_2 MP 800 to 854
Cold 44 101 Hot.

$ZnCl_2$ 365 MP BP 730
Cold 207 616 Hot.

Na_2SO_4 MP 875 Cold 4.8
Hot 42

K_2SO_4 MP 1050. Cold 8½ 26 Hot

$MgSO_4$ ————

$PbSO_4$ MP 937 insol

Mg fluoride MP 908 - Cold .007 Hot insol
MnF MP 856

Nickel Metal MP 1484 C
Platinum " 1710 C

K_2CO_3 MP 860 Cold 89 Hot 156
KCy MP Red heat
Dichromate K 400 C
K fluoride 825
K Formate 150 C ? ?
K Nitrate 336 to 353
Calcium fluoride 900 to 1300
Calcium Nitrate 561 - Cold 93 Hot 350
Ca Silicate 1400 Sol HCl
$CaSiO_3$

$BaCl_2$ 960
$BaCl_2$ 2 aq 860
Ba fluoride 1280
Ba Nitrate 575 - Cold 5 Hot 32
Cu_2S 1100
Lead Sulfate MP 937
Lead Sulfide 1015 BP 1085
Insol KOH ? ? [illegible]
Borate Lead MP Red heat Insol Alkali
K Sulfate MP 1060
K " acid 200 ? ? decomp
K pyrosulfate 300
Na Tetra Carbonate 878
Borax - Red heat - Cold 3 - Hot 201
K Carbonate 849 - decomp
NaF 980 Cold 4
NaOH - 1098 BP white heat
Na Nitrate 310 Decomp
Na Nitrite MP 213 - Cold 83 Hot V.S
Na_2O Red heat sublime
Na Metaphosphate 617 insol aq.
Pyrophos Na 970 Cold 5 Hot 93

Na Sulfate MP 860 @ 897
Cold 4.8 Hot 42
Acid sulfate 300 - Cold 50 Hot 100
Zinc acetate MP 242 V Sol
Na_2CO_3 849 - decomp 7 cold 45 Hot

~~2c Royalty to publishers do we pay on sales or get credit on returns - if so how do we tell -~~

Dinas brick - Quartz sand containing very little alumina & about 1% of lime. The lime being just enough to make the grains of sand stick together

Another brick is fireclay 5 to 10% mixed with sand, this plastic material allows to be handled ok before burning -

Fire clay fire sand & felspar are sent from NJ to glass houses to be worked up in large blocks which are shaped into moulds so as to suit different & irregular parts of furnaces NJ has preference over all others

~~Get a new Book~~

See Watts Potassium page 719 720 Extracting potash from felspar good -

~~Where is Inspection Jenny's Report.~~

Bookkeeping arrangements for Cylinder Record in Johnsons hands

~~Dossier for fast rates or~~
~~other tabulated information~~
~~used continually with~~
~~Cardboard Covers some~~
~~pasted in or uniform~~
~~leaves~~

Get all dealers listing
Sales like Taylor got
for a Dossier whole
US—

Find out how many of
the 1st year Records we
have 2nd version &
also good smooth ones
up to date—

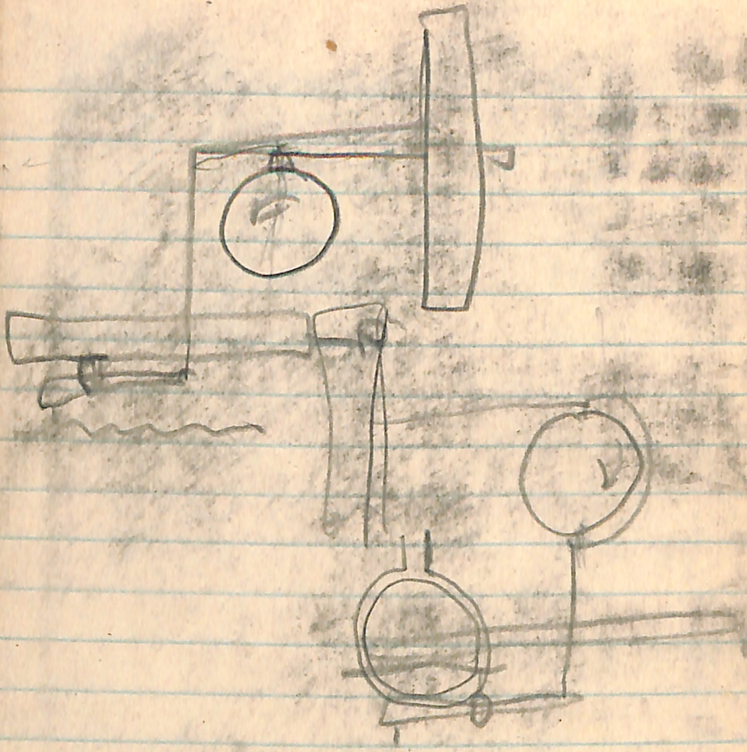
~~Hoffman to expmt~~
~~on Varnish slop~~
~~blisters -~~

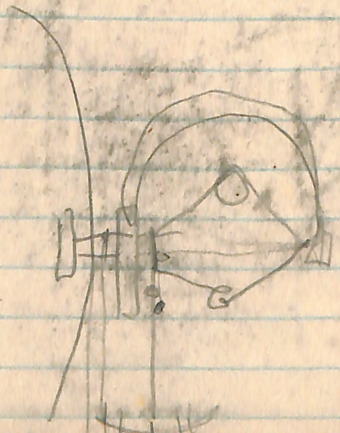
Ba hydrox	5.56 Cold	182 hot
Sr hydrox	0.90	47.
Li Hydrox	12	17 Too much

Not so sol in KOH 21%
Sr too slow coming out
of solution - Ba might do
Cold

4

250	Bands	40
219	Opera	38
426	Grand	70
20	Whistley	3
64	Pianos	10
36	Banjos	4



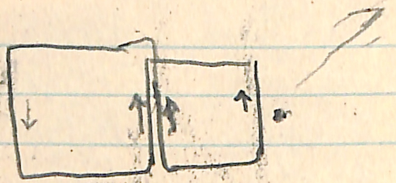


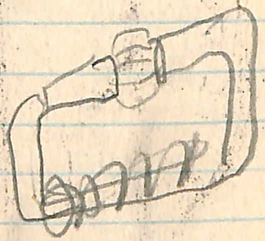
Body dies Eat seed	Body lives ~~Eat seed~~	Body Eat body
Wheat	Eggs	Meat
Pickles	Milk	Beets
Mellons	Butter	Carrots
Rice	Cheese	Asparagus
Beans	Olives	Spinach
Tomatoes	Apples	Lettuce
Potatoes	Cherries	Fish
	Peaches	Sugar
	Nuts	
	Oranges	
	Grapes	

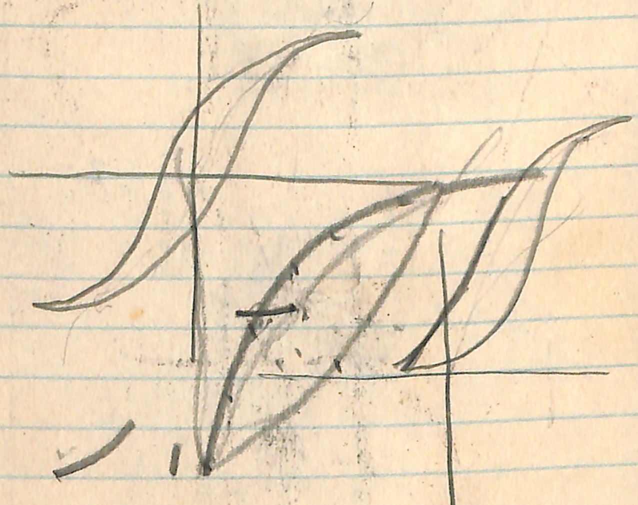
2135
640
2775

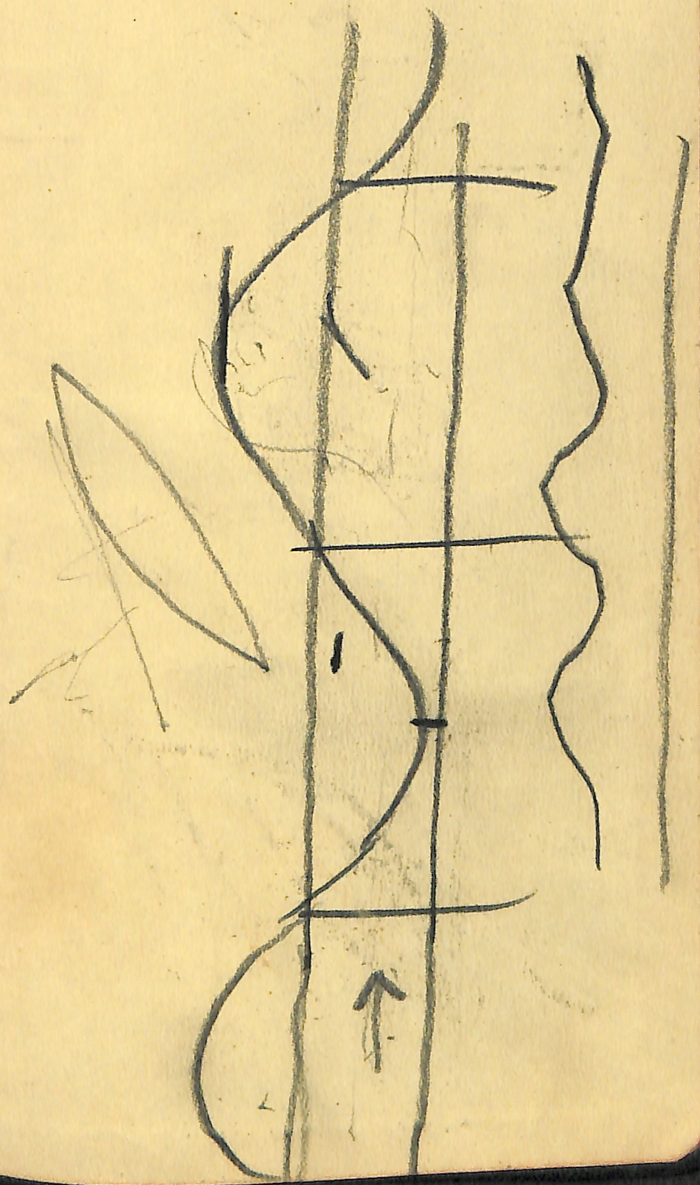
21350
19425
1925
0
17250
600
16

762.









Snow shoe
Moshannon
Drifting
Kylertown
Allport or Grahamton
Bigler
Woodland
CLEARFIELD
CURWENSVILLE
Luthersburg
DUBOIS

FALLSCREEK
BROCKWAYVILLE
Challenge
Elbon.
Johnsonburg

Rolf
Wilcox
~~Mount~~ JEWETT
KANE
SHEFFIELD
WARREN
Russell
Frewsburg
JAMESTOWN